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Synthesis and properties of 3-nitro-2H-chromenes 1081

V.Yu.Korotaev, V.Ya.Sosnovskikh, A.Yu.Barkov

Ural Federal University named after First President of Russia B.N.Yeltsin, Ekaterinburg, Russia

Preparation methods and chemical properties of 3-nitro-2H-chromenes are generalized, in particular, reactions with nucleophiles, cycloaddition, oxidation and reduction. Data on enantioselective reactions involving 3-nitro-2H-chromenes and stereochemistry of the products are discussed. The ways of practical application of these compounds are demonstrated. Bibliography — 115 references.

Protective properties of wine products and the role of high performance liquid chromatography in the study of these properties 1117

E.V.Ulyanova, O.G.Larionov, A.A.Revina, D.V.Andryevskaya, L.M.Urusova, A.A.Fenin

A.N.Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences, Moscow, Russia

State Scientific Research Institute of the Brewing and Wine Industries, Russian Academy of Agricultural Sciences, Moscow, Russia

D.I.Mendeleev University of Chemical Technology of Russia, Moscow, Russia

Data on the biologically active substances present in wines and wine products, the methods of their determination, and changes under chemical, radiation and other types of action are generalized. The role of high performance liquid chromatography in the studies of the protective properties of wines is demonstrated. Particular attention is devoted to problems of adulteration of wine products and the possibility to reveal it by using amperometric determination of the antioxidant activity. Bibliography — 117 references.

Shape memory effect and superelasticity of titanium nickelide alloys implanted with high ion doses 1035

A.D.Pogrebnyak, S.N.Bratushka, V.M.Beresnev, N.Levintant-Zayonts

Sumy State University, Ukraine

V.N.Karazin Kharkiv National University, Ukraine

Institute of Fundamental Technological Research of the Polish Academy of Sciences, Warsaw, Poland

The state of the art in ion implantation of superelastic NiTi shape memory alloys is analyzed. Various technological applications of the shape memory effect are outlined. The principles of and instruments for ion implantation are described. Specific features of the technique as a method for modification of surface layers in surface engineering are considered. Key properties of shape memory alloys and problems in utilization of ion implantation to improve such properties of shape memory alloy surfaces as corrosion stability, friction coefficient, wear resistance, *etc.* are discussed. Bibliography — 162 references.